



Implementing Mobile TV service  
In  
Bangladesh

# Internship Report

## On

### “Implementing Mobile TV Services in Bangladesh”



**Submitted to:**

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10<sup>th</sup> September, 2014

## Letter of Transmittal

10<sup>th</sup> September, 2014

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BRAC Business School

BRAC University

66, Mohakhali, Dhaka

Subject: Letter of Transmittal.

Dear Sir,

I, Nusrat Zahan am hereby submitting my internship report. The last 12 weeks has been the most fabulous learning experience for me. Without your guidance and help this learning experience would not have been the way it has been.

I have tried my level best to come up with as well written and informative report as possible. However, because of the confidentiality policy of True Services (Pvt.) Limited it has not been possible to put as many data and information as I would have liked to.

Hope you enjoy reading the report just as much I enjoyed writing and working for the report.

With Regards

---

Nusrat Zahan

ID: 10104172

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BRAC University

## Acknowledgement

With all thanks to all mighty Allah and Prophet Hazrat Muhammad (SM), it is my concession to thank to MD. Jabir Al Mursalin is Asst. professor of the BBS (BRAC Business School) for rendering me his expertise knowledge and giving the opportunity of practical exposure through this report.

This report would never have been the way it is without the help and guidance of the following people.

I thank Late Dr. Mr. Fazley Elahi Chowdhury for all his help, guidance and suggestions and above all the precious time that he spared for me on a regular basis when he was alive. I feel very sad that I could not take judgments from him about this report.

I like to thank all faculties of BRAC University to teach me and make worthy full my university life. They always show the right path of future and help to take decisions.

I also thank Mr. Riyad Hossain, General Manager in True Services (Pvt.) Limited for motivating me all the way till the end.

I am thankful to Mrs. Mafruha Mahfuz, my supervisor in True Services (Pvt.) Limited for guiding me at every step.

Special thanks go to my office colleagues for helping me and giving a homely environment in this period.

Hereby thanks for my beloved family members and also for all of my friends they inspire me all of my study life.

I also thank all the countless others who helped me with data, information and analyzing them properly.

## Declaration

I am Nusrat Zahan, declaring that, this report is my own work and I did not take any illegal way to complete it. Furthermore, no one can copy, use or publish it without my permission.

For some data I go through some books, articles, journals, newspapers and websites. Those pages are cited in reference page.

## Executive Summary

The study of “Implementing Mobile TV service in Bangladesh” is constructed with True Services (Pvt.) Limited. This study covers the video and audio formats used for Mobile TV service and the architecture of the service design. Mobile TV service is more or less new service in Bangladesh. It is a feature of third generation telecommunication technology. This service is provided to users by third party content providing organization, True Service (Pvt.) limited one of those companies where I had worked as intern.

This project gives idea on the Mobile TV technology and the advantage on this service. People are nowadays very busy and they face big traffic jam; so they often miss important news, programs and sports. Mobile TV is a big solution for those busy people. Bangladesh is now under 3G network system and people cannot imagine their daily life without internet. How 3G had come in Bangladesh and made a big change all over the country, we all know that. Mobile TV is one of those big changes. We have electricity problem, satellite problem but Mobile TV dose not bother with that because in Bangladesh Mobile TV mainly based on IP system and it costs little amount of money and burn minimum bandwidth.

Mobile TV is vastly used in technology developed country and now in Bangladesh it is popular also. This study helps to understand the challenges to operate this service and future of this service. True Services (Pvt.) Limited designed this service for Bangladesh’s leading telecommunication operator and its feedback is very good.

During my internship project for True Services (Pvt.) Limited, I investigated opportunities where technology could be effectively used. In a technological sector intern can learn things that will helpful for future. I think it helped me a lot to get information in a practical way. This report describes new and evolving technologies that can be enhance the performance of existing tools of aid in the development of new generation of tools at True Services (Pvt.) Limited.

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# **Chapter- 1**

## **1.1 Preface:**

When we buy a mobile phone and an authorized SIM we enjoy many services with the facility of talking and messaging like Informative SMS service for news, sports, entertainment; Voice services; Internet services. Many people think these services also provide by mobile SIM companies but not. In Bangladesh there are many companies who work as third party service provider, provide these kinds of services. True Services Ltd one of those companies, they work for almost every mobile company like Grameen Phone, Banglalink, Cyticell, Robi and Airtel. True Services Ltd provides message, voice and internet services to these companies better than other Bangladeshi third party content provider.

In September 2013, Bangladesh entered in a new era of 3G technology which provides faster internet service. At auction of the 3G field, four major private operators – Grameenphone, Banglalink, Robi and Airtel paid \$525m to the Bangladesh Telecommunication Regulatory Commission (BTRC) to buy licenses. Grameenphone credited 10 Mhz, Banglalink, Robi and Airtel each bought 5Mhz. Government operator Teletalk is providing 3G services before the auction.

This 3G technology comes with huge opportunity of business and communication. In that way, True Services (Pvt.) Limited launched latest project on Mobile TV service from January 2014. It is totally new for Bangladeshi people. In my internship period I had work on this new entertainment opportunity created by 3G technology.

In this paper True Service (Pvt.) Limited business strategies for Mobile TV are analyzed with special emphasis on their strategy in Bangladesh. Based on the learning from these strategies and counter strategies, a detail strategy for True Services (Pvt.) Limited will be suggested.

## **1.2 Background of the Internship Report:**

As part of Internship requirements, twelve weeks organizational attachment with an organization is required. After joining at True Services (Pvt.) Limited as a IT and Business Developer in the Strategy and Development function I was assigned to the IT Team with particular focus on Mobile TV technology for our clients. My first assignment was to investigate Mobile TV demand globally, in emerging markets and particularly in Bangladesh. Based on the findings, future strategy of True in Bangladesh was build.

This was a very extensive study and this is what this report is on.

It may be mentioned here that, the data and other information used in this study are confidential and hence a lot of them could not be used in this report. Some data used in this report are not accurate and have been intentionally fabricated to maintain confidentiality as per the policy of True Services (Pvt.) Limited.

## **1.3 Origin of the project:**

Bangladesh is very much upgraded on the perspective of technology. Around one million people are engaged with technology service. Moreover, almost 80 million people use only mobile technology. It is a very bright sector to increase the wealth of nation. True Services (Pvt.) Limited is a sincere company to deliver good mobile content technology services to people.

The whole project is on the implement of Mobile TV service which belongs to the premium technology service and the response of True Services (Pvt.) Limited. However, the mass technology markets have not been ignored while working out the business analysis which will be evident in the report.

## **1.4 Objective of the Internship report:**

The object is divided as a view of company and as a view of personal. When it is company view the objective of this report is to focus on two broad issues. One is to briefly look at True Services (Pvt.) Limited business strategy for implementing Mobile TV service. The second objective and the main issues of this report is as follows-

- To discuss about the importance of Mobile TV technology in Bangladesh
- To measure the impact of Mobile TV technology in Bangladesh

As a personal view two types of objective are detected in this report,

### **Primary Objective:**

Where I have done my internship True Services (Pvt.) Limited is providing services excellently to their customer. Leading mobile company Grameen Phone taking services from True almost the year when it started its business. Trustfully true fulfilling all the requirements of these mobile companies, that is way True Services (Pvt.) Limited launched Mobile TV service for these mobile companies. From the customer feedback it is disclosed that True Services (Pvt.) Limited is successful to implement mobile TV service in Bangladesh. I am thankful to do work with True Services (Pvt.) Limited because of their competency.

### **Secondary Objective:**

For make my internship successful BRAC University's Bachelor of Business Administration department helped me always. I gained practical knowledge of technology from BRAC Business Schools study was my only path. As an information and technology student I earned knowledge about IT from BRAC. To fulfill my internship project and make it successful BRAC University's BBA degree is very much important to me.

## **1.5 Scope of the Report:**

The scope of the report is limited to the Mobile TV market only which is directed by Grameen Phone. While doing the competitor analysis, Banglalink and Robi's Mobile TV service have been analyzed with special emphasis.

While formulating the response Business strategies to implement Mobile TV service of True Services (Pvt.) limited, strategies have been worked out only for their Mobile content services. However, their other mobile content services like voice and message services have not been ignored while formulating the response strategy or while analyzing the market.

## **1.6 Methodology:**

Very few analyses had done one the basis of primary data. Rests of the analyses are done based on secondary information. The sources of information used to analyze strategies are:

- True Services (Pvt.) limited archive
- Technology journals Archive.
- Trend of technology is used in Bangladesh.
- Global mobile Technology.
- Employs of True Services (Pvt.) limited
- Feedback of the service holders
- The Internet.
- International technology articles
- Newspaper

## **1.7 Limitations:**

The major limitation I have faced is, True Services (Pvt.) Limited is not a listed company in any stock market of Bangladesh as a result of which, they do not disclose ANY information to the public. This has compelled to exclude the performance and financial analysis section from this report.

Also this being a conservative organization, do not allow any other information or data belonging to True Services (Pvt.) Limited to be disclosed to anyone outside this organization.

By policy, True Services (Pvt.) Limited do not disclose any financial, research, client, profit, production or sales data to anyone outside the organization or even inside the organization who do not have proper authorization. Because of this policy it has not been possible to include the data and other information used to analyze different business strategies and work out strategies for Mobile TV in this report. Most of the data used in the report are not fact and have been fabricated to maintain confidentiality as per the policy of True Services (Pvt.) Limited. Any inconvenience is regretted.

## **Abbreviations of short form of words**

VAS: Value added service

SMS: Short messaging service

MMS: Multimedia messaging service

WLAN: wireless local area network

GPRS: General packet radio service

WAP: Wireless Application Protocol

PTT: Push-to-talk

IVR: Interactive voice response

WDA: Workforce Development Agency

ICT: Information and communications technology

IT: Information technology

USSD: Unstructured Supplementary Service Data

CRM: Customer relationship management

3G: third generation of mobile telecommunications technology

GSP: Global Positioning System

CDMA2000: a family of 3G mobile technology standards

CMMB: China Mobile Multimedia Broadcasting

DMB: Digital Multimedia Broadcasting

S-DMB: Satellite-DMB

T-DMB: terrestrial-DMB

DAB: Digital Audio Broadcasting

DVB-H: Digital Video Broadcasting - Handheld

IP: Internet Protocol

ATSC M/H: Advanced Television Systems Committee - Mobile/Handheld

1Seg: Is a mobile terrestrial digital audio/video and data broadcasting service in Japan.



MPEG-4: Is a method of defining compression of audio and visual (AV) digital data

WM9 video: Video Compression Manager (VCM) based version of the Windows Media Video 9

AAC: Advanced Audio Coding

WM audio: Windows Media Audio

QPSK: Quadrature Phase Shift Keying

3GPP: 3rd Generation Partnership Project

3GPP2: Third Generation Partnership Project 2

## Chapter 2:

### *2.1 Overview of True Services (Pvt.) Limited:*

---

Under True Group's umbrella True Services (Pvt.) Limited is an Internet and mobile phone content developer company in Bangladesh. It founded in 2008 and it started its business in 2010. They have a group of talented and experienced resources, offshoots from telecom industry, behind the fast growth of the company. It soon became prominent in serving value added services to local market with its creative and dynamic products, bringing good business prospects to the clients.

True Services (Pvt.) Limited targeted to become one of the leading VAS providers in local market within year 2012 and they did it. They understand the local market properly and thrive to introduce new products which directly benefit both end user and the clients with better business with a win-win situation.

True Services (Pvt.) Limited is one of the operations of True Group, which has got other wings involved in business of distribution, Internet Service Providing, Direct Marketing, Import and trading of office automation devices, Mobile phone content marketing.

#### **Corporate office address is:**

True services (Pvt.) limited  
Bashati Condominium, B-9/10  
House-15, Road- 17, Banani, Dhaka, Bangladesh  
[www.truebd.net](http://www.truebd.net), Tel: +880 2 9841886

## *2.2 History of True Services (Pvt.) Limited:*

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True Services (Pvt.) is pioneer of value added service system in Bangladesh. It started by the hands of pioneer of mobile phone technology in Bangladesh. The **CEO of Citycell, Mehboob Chowdhury** is the golden man who brings mobile technology very first in Bangladesh. Mr. Chowdhury has been pioneering the telecommunication industry for more than 10 years in various Senior Management and strategic positions. He has the experience to have worked in Grameen Phone and Banglalink as the Chief Marketing Officer.

He has been elaborate in planning, developing and executing telecommunications for the emerging mass market as a tool to change common Bangladeshi's lives; at the same time working towards developing the entire telecom market to increase scope of operations for all companies.

He believes that technology is the tool to bridge the digital divide and propel faster rate of poverty alleviation. From this point of view he started thinking about new platform of mobile services with only taking and SMS services. That was Value added services.

### **2.2.1 Value added services:**

Value-added services are for mobile commonly known as VAS. VAS is those services that offer verity of services for that mobile operators charge a fixed or premium price. It can be non-voice service like SMS, MMS, WLAN, GPRS, WAP, mobile gaming and voice services like PTT, IVR, and WDA. These Services are accessed using commonly 4 to 8 Digit Short codes.

True is founded for elaborate the mobile services and increase local market efficiency.

### *2.3 Mission, Vision and Objective of True Services (Pvt.) Limited:*

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To respond the information essentials of Bangladesh, True Services (Pvt.) Limited was established with the aim of developing the customers' base into educated, knowledge and informative through providing VAS to different telecommunication companies. Their mission, vision and objective is,

#### **2.3.1 Mission:**

Each of our activities must benefit and add value to the common wealth of our society. We firmly believe that, in the final analysis we are accountable to each of the constituents with whom we interact; namely: our employees, our customers and our fellow citizens.

#### **2.3.2 Vision:**

True Services (Pvt.) Limited's vision is to become the leader in serving a happy and loyal customer base for the telecom partners and bring good business with consistent mutual benefits.

#### **2.3.3 Objective:**

Our objective is to provide latest up to the date, important, knowledgeable, necessary value added service to all mobile users in Bangladesh. We want to be recognized locally & internationally as a high quality software service developer and marketer.

## *2.4 Organization Structure:*

---

True Services (Pvt.) Limited is a private limited company. It restrict follows the Private limited company act 1994. It belongs to option 9 of the act.

The Companies Act, 1994

(Act XVIII of 1994)

A Private Company Limited by Shares

Memorandum of Association

Of

True Services Limited

- I. The name of the Company is True Services Private Limited.
- II. The Registered Office of the Company will be in Dhaka, True services (Pvt.) limited, Bashati Condominium, B- 9/10, House-15, Road- 17, Banani, Dhaka, Bangladesh.
- III. The objectives for which the company is established are all or any of the following provided that permission/approval/license from the Government or its appropriate agency and the concerned local government authority shall be obtained wherever it is so required by law, rules or regulations:

### **OPTION 09: FOR e-BUSINESS**

01. Primarily to promote the development and advancement of computer systems, Information and Communication Technology (ICT) and Software, and carry on, undertake and conduct related business and do all matters and things incidental there to.

02. To encourage and assist in the balanced development of the software and information services industry in Bangladesh.

03. To work closely with ICT area with a view to enabling the Bangladesh Software and Information Technology industry reach global pre-eminence.

04. To acquire and take over as a going concern the business now carried on in Bangladesh by ICT Company.

05. To maintain all information relating to the clients business operations, practice and related systems in absolute confidentiality. The success surmounted through the humble reputation of developing various software at attractively low cost ensuring better product lives.

06. To provide full range of Systems Software and Hardware Solution products and peripherals.

07. To help in the development of financial systems required by Software and Information Services industry.

A type of company that offers limited liability or legal protection for its shareholders but that places certain restrictions on its ownership. These restrictions are defined in the company's bylaws or regulations and are meant to prevent any hostile takeover attempt.

#### **2.4.1 The criteria followed by True Services (Pvt.) Limited:**

1. It is a Private Limited Company within the meaning of section 2(1) under clause (Q) of the companies Act,1994 and accordingly the following shall apply:-

a. No invitation issued to the public to subscribe for any share, debenture of the company;

b. The number of members of the Company (exclusive of the persons in the employment of the company) limited to fifty

c. The right to transfer shares of the company is restricted in the manner and to the extent hereinafter provided.

2. The Authorized Capital of the Company is Tk. 10, 00, 00,000/- (Ten Crore).

3. The business of the Company is commenced from the date of incorporation of the company.

4. No member is entitled to vote.

5. Until otherwise determined in the general meeting the number of Directors of the company is not less than TWO and not more than TEN.

6. The following persons shall be the first Directors of the company.

1. Mehboob Chowdhury

2. Mirza Galib

7. Every Director removes his office in the event of:

a) He is failing to obtain the qualifying share.

b) He becoming bankrupt or insolvent or on becoming unsound mind.

c) He resigning from the office by giving notice in writing to the company.

d) And if he acts in contravention of the section 86(f) of the Companies Act 1994.

8. Mehboob Chwdhury is the first Chairman of the Company for a period of 5 (Five) years from the date of incorporation. He will preside all over the meeting and supervision all the activities of the company.

9. Mirza Galib is the first Managing Director of the company for a period of 5 (Five) years from the date of incorporation.



## 2.5 Business Segments:

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### Groups

IT

Business Development

Corporate (Accounts, Logistic)



### Segments

IT solution, Managed services

Mobile application, Cloud services

Employee and stockholder services, welfare



### Product/ Services

Bandwidth management, Data network, Security solution, network and security service

Design VAS, Process and organized contents, Deliver content to end user

Human resource, employee rights, dealing, marketing, management, motivation



### Customer

Telco Mobile Operators

Telco Mobile Operators

Inside and outside party of organization

Figure 1: Business Segments of True Service limited

## ***2.6 Code of Business principal of True Services Limited:***

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The following True Services (Pvt.) Limited's business principals are also applicable for True group.

### **2.6.1 Standard of Conduct:**

They conduct their operations with honesty, integrity and openness, and with respect for the human rights and interests for their employees. They will similarly respect the legitimate interests of those with whom they have relationships.

### **2.6.2 Obeying the Law:**

True and their employees are required to comply with the laws and regulations of the countries in which they operate.

### **2.6.3 Employees:**

True is committed to diversity in a working environment where there is mutual trust and respect and where everyone feels responsible for the performance and reputation of their company. They will recruit, employ and promote employees on the sole basis of the qualifications and abilities needed for the work to be performed. They are committed to safe and healthy working conditions for all employees. They will not use any form of forced, compulsory or child labor. They are committed to working with employees to develop and enhance each individual's skills and capabilities. They respect the dignity of the individual and the right of employees to freedom of association. They maintain good communications with employees through company based information and consultation procedures.

### **2.6.4 Consumers:**

True is committed to providing services which consistently offer value in terms of price and quality. Services are accurately advertised, and communicated.

### **2.6.5 Shareholders:**

True conducts its operations in accordance with accepted principles of good corporate governance. They provide timely, regular and reliable information on their activities, structure, financial situation and performance to all private shareholders.

#### **2.6.6 Business Partners:**

True is committed to establishing mutually beneficial relations with our customers and business competitors.

#### **2.6.7 Community Involvement:**

True strives to be a trusted corporate citizen and, as an integral part of society, to fulfill their responsibilities to the societies and communities in which they operate.

#### **2.6.8 Public Activities:**

True companies are encouraged to promote and defend their legitimate business interests. They co-operate with governments and other organizations, both directly and through bodies, in the development of proposed legislation and other regulations, which may affect legitimate business interests. They neither support political parties nor contribute to the funds of groups whose activities are calculated to promote party interests.

#### **2.6.9 The Environment:**

True is committed to making continuous improvements in the management of their environmental impact and to the longer-term goal of developing a sustainable business.

#### **2.6.10 New Technology/ Business Innovation:**

In their business and service innovation to meet consumer needs they respect the concerns of their consumers and society.

### **2.6.11 Competition:**

True believes in vigorous yet fair competition and supports the development of appropriate competition laws. They conduct their operations in accordance with the principals of fair competition and all applicable regulations.

### **2.6.12 Business Integrity:**

True does not give or receive whether directly or indirectly bribes or other improper advantages for business or financial gain. No employee may offer give or receive any gift or payment, which is, or maybe construed as being, a bribe. Any demand for, or offer of, a bribe must be rejected immediately and reported to management. Their accounting records and supporting documents must accurately describe and reflect the nature of the underlying transactions. No undisclosed or unrecorded account, fund or asset will be established or maintained.

### **2.6.13 Conflicts Of Interests:**

All True employees are expected to avoid personal activities and financial interests, which could conflict with their responsibilities to the company. They must not seek gain for themselves or others through misuse of their positions.

## 2.7 Product and Services:

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The Subscribed users of these Telecom Operators can enjoy services.





Company name	Logo
<b>Grameen Phone</b>	
<b>Robi</b>	
<b>Banglalink</b>	
<b>Citycell</b>	
<b>Airtel</b>	

Table 1: Clients of True Service Limited

These services are provided by True services limited,

**SMS Category:**

- Point-to-Point message  
Mobile terminated (MT) - Push  
Mobile originated (MO) - Pull
- Point-to-Omni point (Bulk SMS)  
Sends messages to predetermined cell broadcast areas

**Value Added Service Category:**

- SMS Base Services  
Premium Services (Binary Message Services)
- Push Pull Services (Text Base SMS Services)  
MO.
- Subscription Services
- MT.
- WAP/GPRS Base Services
- WAP Site enable services
- Mobile TV Services (for GP Users)
- IVR Services
- Daily News services
- Breaking News services.
- Entertainment News Services.
- Sports News Services.
- USSD Services.
- Traditional VAS products: Ring back Tone, LOGO, Wallpaper, Screen Saver, Games.
- Stock brokerage service.
- CRM

**Codes for different operators:**

SL No	Short Code	Company	Platform	Services
1	2002	Citycell	IVR	News and sports information
2	1412	Citycell	Text	Sports information
3	2002	Grameen	IVR	Sports information
4	2345	Banglalink	Text	Sports and entertainment

Table 2: Short codes of services

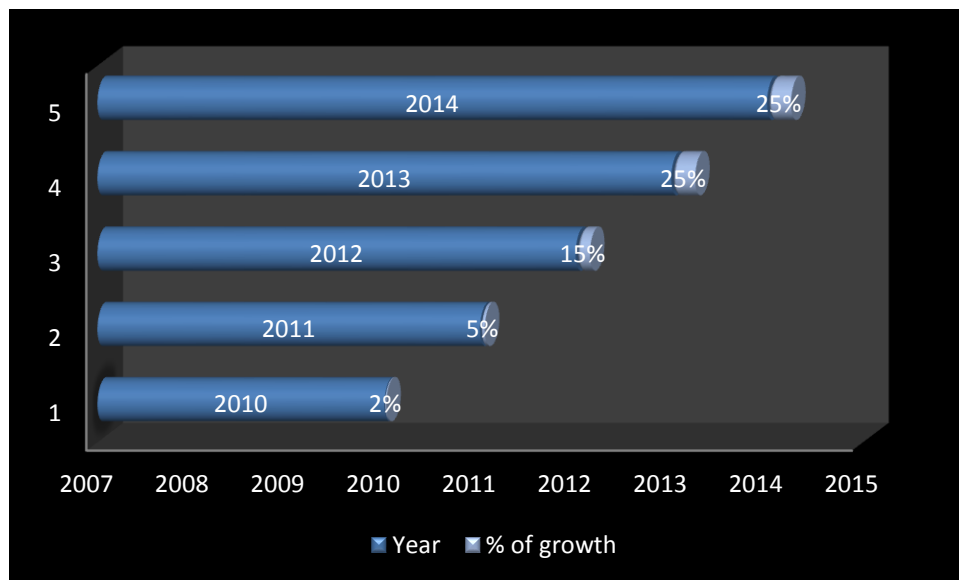
### 2.7.1 Business Growth:

True Services (Pvt.) Limited is a profit oriented organization. Their profit is mainly the specific percentage of the particular service's total profit that is gained by the telecommunication operators.

$$\text{Profit} = \text{Total profit from that service} * \text{specific \%}$$

Here presenting an assumed business growth chart.

Year	2010	2011	2012	2013	2014
% of growth	2%	5%	15%	25%	25%



Graph 1: Assumed Business Growth



## 2.8 Organogram:

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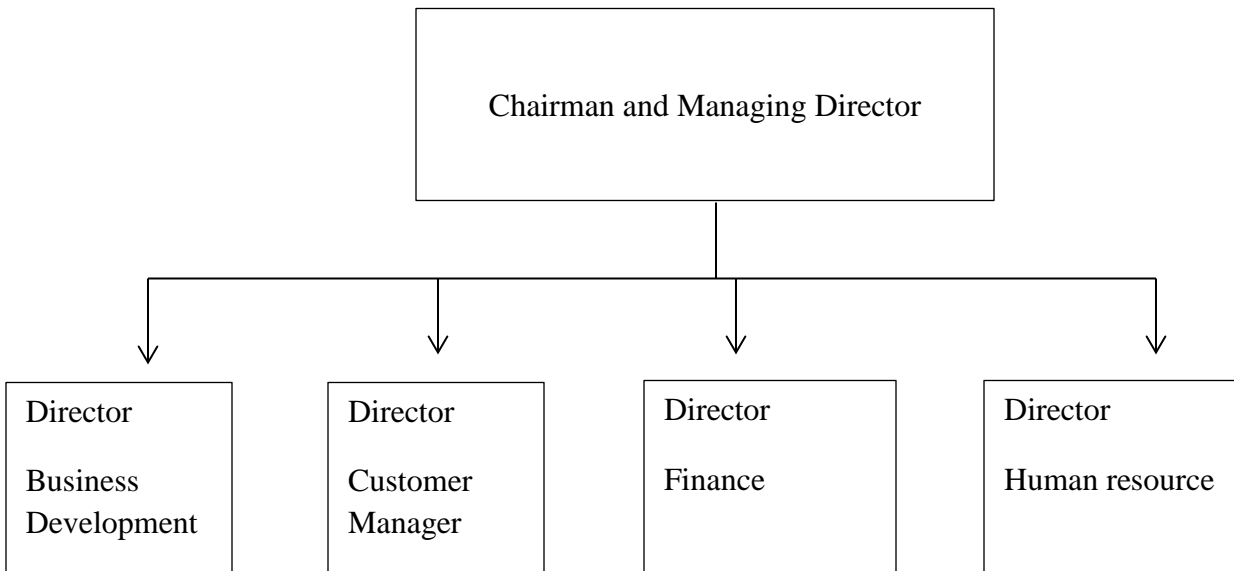


Figure 2: Organogram Director level

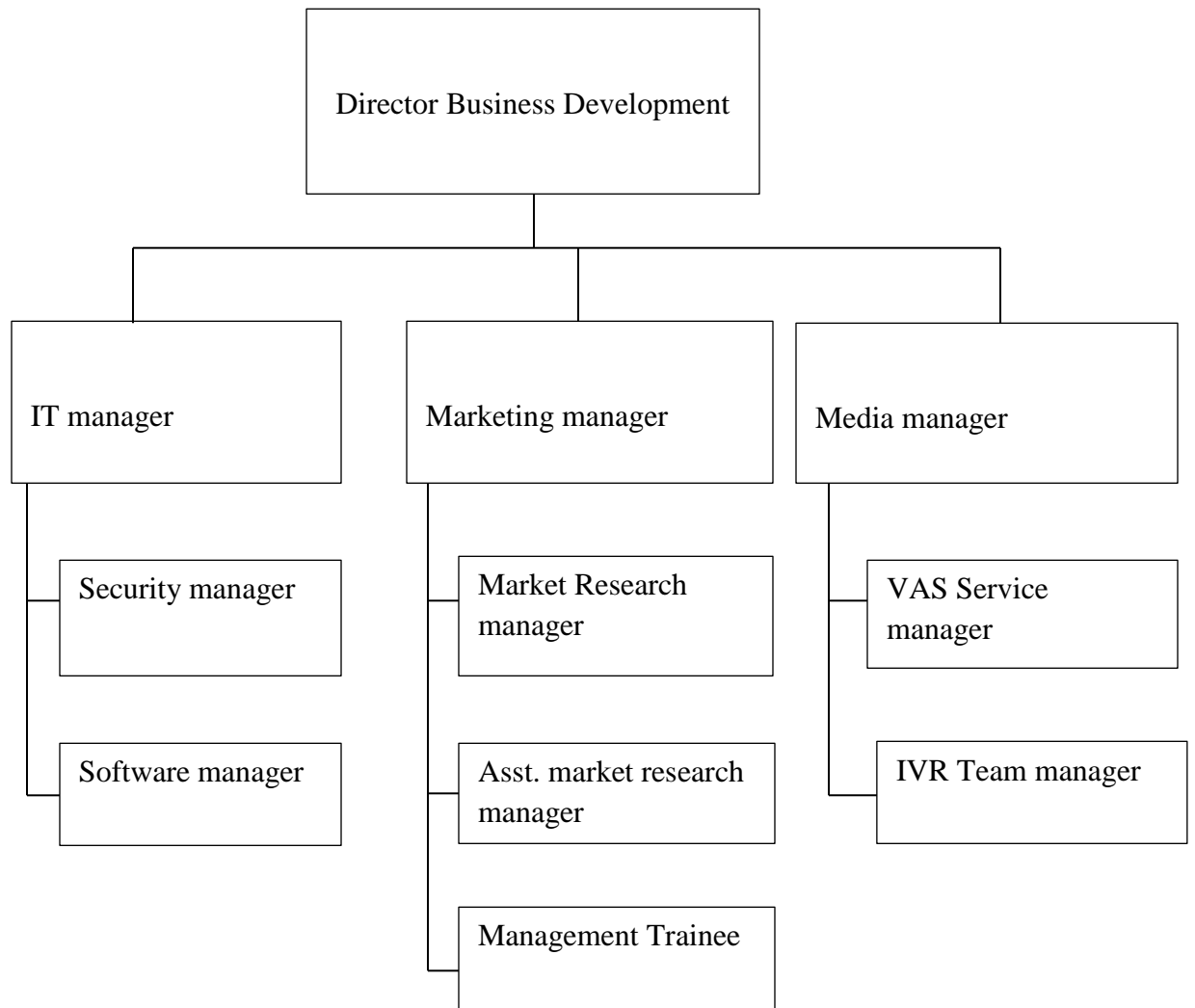


Figure 3: Organogram of Business development department

## ***2.9 SOWT Analysis:***

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SWOT particularly influential is that, it can help to uncover opportunities that are well placed to exploit, by understanding the weaknesses of business and can manage and eliminate threats that would otherwise catch unawares.

SOWT analysis of True Services (Pvt.) Limited:

### **Strength:**

- Content development market is a fast growing market because of customizing of IT development. True has own IT development team to grab the market.
- Most personal marketing in this field and True has excellent marketing program.
- True guarantee for consistent quality of their services.
- True has experienced specialists and high potential employees to do quality full job.
- True offer customer reliable product with reasonable service charge.
- True has excellent trouble shooter group to solve any kind of problem related to job within shortest time.

### **Weakness:**

- With the pressure of current services, it is hard to differentiate the offerings.
- There is a tension of security concern when it is cloud computer sourcing.
- Sometime poor quality services are run in market with low cost, when clients want low cost rather than quality work they move to other company.
- True has funding problem because it is Private limited company.
- It started its journey just five years, so it is very small time to be reputed.

**Opportunities:**

- True is very loyal company to their customer, for those customers are looking for ongoing relationship.
- Mobile content service is a very upward growing market. The supplement of this market is huge so it can be said that there chances to grow more.
- There are many unoffered services which are designed by True technicians, at the perfect time they will expend their services.

**Threats:**

- It is a growing market so there are many competitors like Arena, Ring offering alike services.
- Price is a very big fact. True can to compromise with quality so some time they charge little bit higher than other company.
- Customers now very choosy, people are using internet in their mobile phone and they get information from it, they are less interested to get information as subscription basis.

### ***2.10 True Service (Pvt.) Limited at a glance:***

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True specialists on mobile based application and information services, Mobile and web based financial service solution, IVR based products for mass market segments, Merchant aggregation for e-Commerce portal

**Full Name:** True Services (Private) Limited

**Founded:** 2008

**Industry:** Telecommunication

**Company Type:** Privately held

**Company Size:** Middle level

**Company Website:** [www.truebd.net](http://www.truebd.net)

## Chapter 3

### *3.1 Internship:*

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Internship is professional training experiences that provide undergraduates the opportunity to gain practical experience in a professional environment. Though in student life many students have part-time jobs but few have exposure to corporate office environment. The internship is the first step to know about office work, dress manner and performing at professional manner, and applying own talent to professional field. It is a chance to develop communication skills and responsibility also. For today's highly competitive job market completing an internship not only bolsters resume but also helps to acquire essential professional skills.

#### **3.1.1 My Internship Experience at True Services (Pvt.) Limited:**

**My study background:** E-Commerce and Finance

**My Internship Project:** Technical support and business development for 3G Mobile TV Project assigned by Grammen Phone.

**Period of alliance:** 15<sup>th</sup> May 2014 – 15<sup>th</sup> August 2014

My internship at True Services (Pvt.) Limited was great and personally as well professionally it was very positive and unique experience. Here I have got the opportunity to work in dynamic work environment. My seniors and colleges were very helpful, kind and dedicated.

Working on an information technology project related to e-commerce or e-learning thought me about technology design, security, and technology innovation. I also introduced to many new software and e-commerce field of business. As my work was business development and technology support I gather knowledge about research work for 3G Mobile TV, it is very interesting to gain depth knowledge that you are going to do. And it is my good luck to work with a very creative team.

Being a new technology part for an e-commerce student is very rewarding. The whole experience is priceless.

### **3.1.2 My Job Responsibility at True Services (Pvt.) Limited:**

#### **Key responsibilities:**

- Planning and organizing ( for 3G mobile TV technology development)
- Managing information and general support( for 3G mobile TV development)
- Communicating ( to Assistant manager of Business development)
- Monitoring and reporting ( for 3G mobile TV development)
- Evaluating and decision making ( for 3G mobile TV development)
- Draft financial budgeting ( for 3G mobile TV development)
- Quality control (for production roles normally a separate responsibility; otherwise this is generally incorporated within other relevant responsibilities for 3G mobile TV development)
- Using controversial system ( for 3G mobile TV development)
- Creating and developing ( for value added services)
- Self- evaluation and self-development ( Provide grade for own work)

#### **General Responsibilities:**

- Care of corporate responsibilities.
- Attending general meetings.
- Formulating and directing strategy.
- Feedback and be biased free.

### **3.1.3 Learning Outcome:**

Internship is the first stoppage from where we ride on corporate career journey. I have learned many skills in this period of time. Here I am mentioning some of them:

- **Enrich communication skill:** It was very common to me to become shy to ask questions and shearing my ideas. But from me practical working life I have to overcome from it because here I had to work with a team and they always push me to share my thoughts.
- **Everywhere knowledge! Take as much as you can:** In these three months many things to do, many things to learn. I wish I would have asked for more work and I could have gain much more things. The more I do, the more I have to show for the experience. Experience is such a thing that people gain form own work and can get profit form this experience.
- **Working hard:** This is unwritten rule that do not waste time. Interns are always busy may be for useful work or for bullish work. Most of the times have to do work.
- **Make a family:** Organization is for working it is for building bond and making family also. I get a good family that is True family and expend a beautiful time with them. This journey does not end with internship period it goes beyond time.
- **Manage anger and be thankful:** Personally I become very angry for very small matter, but here I come to know about how tactfully situations can be handled, manage my anger if it is a big trouble and always be thankful to others.

### **3.1.4 Personal Observation:**

I had work with True Services (Pvt.) Limited as a Business developer and technology supporter in this summer session. At my point of view, I am very positive about my internship because I am student of e-commerce and from here I had get knowledge about it. My internship company is not any multinational or well-known company; it is just a local company who is providing endless support to leading telecommunication operators.

I was in 3G mobile TV project which is very new technology to Bangladesh. I feel very lucky for being a part of this new generation technology. I had seen the real talent to create such kind of service and to deliver to the end user. Now people are enjoying every new technology via smart-phone, Mobile TV one of those services. Our company did a tremendous job to create this service available to the end-user.

When I started work I have doubt that would I do this job because I do not have any practical knowledge about mobile technology. I had theoretical knowledge but not and real experience. After two months with the help of my team member I make believe on myself that I can do it. Though practical work is hard it is but much more interesting than paper job. My supervisor and manager make personal and team meeting every other day. They motivated me to bring out my own potentiality.

I have spent a beautiful summer with a great corporate family. This real world experience of both developing business and technology support completely aligned to my career goals and I am very satisfied with my internship experience.



## Chapter: 4

### *4.1 Introduction to the project:*

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3G comes with the torch of new technology in Bangladesh. The new services we are enjoying through 3G are Global Positioning System (GPS), Location-based services, Mobile TV, Telemedicine, Video Conferencing, Video on demand.

#### **4.1.1 3G- Third Generation Telecommunication Technology:**

3G is third generation standard of telecommunication hardware; new version after 2.5G. This 3G technology established at International Telecommunication Union group (ITU) of standards that goes to IMT-2000. 3G network system allows operations to provide a large range of latest services. It brings all facilities in the hand of users.

Well, the first time 3G network system offered by NIT DoCoMo in Japan for commercial use in May 2001 as brand name FOMA. Secondly, SK Telecom from South Korea launched 3G in January 2002. From the history we can see that 3G's age not high. It is very new and recent technology.

#### **4.1.2 3G in Bangladesh:**

Mobile came in Bangladesh at middle of 1990. From that time 2G was used by users. 3G is latest telecommunication technology in Bangladesh. At first state-run company Teletalk launched in 2012. After 3G Teletalk got turn point of their business because before it was known as losers' company. Other GSP operators launched 3G by October 2013. Citycell operates a nationwide third-generation CDMA2000 network.

Mobile TV is one of the stimulating services of 3G. This project is all about the depth of 3G mobile TV design and service technology.

## *4.2 Literature Review of Mobile TV:*

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Downloading music, checking e-mails are most common functions when we buy a new smart-phone. But smart-phones can show much more than our need.

For this demand many people of Bangladesh already stem up, they are now the part of new technology service that is mobile television on their smart phone handsets.

Mobile TV briefly defined as real-time broadcast transmission of content to mobile devices. Some people defined as video playing via mobile devices. In general, mobile TV is TV watched on smart mobile devices. It also includes paid television service delivered through mobile phone networks or received free-to-air via terrestrial television stations.

Mobile television shows important technology that can surface and deny long-held assumptions that may contains people's view of potential and realized customer experienced value and suppliers contribution to worth. Mobile television is one of the present of third generation mobile technology.

### **4.2.1 Mobile TV history:**

Mobile TV is not that much past technology. It comes with 3G mobile technology and 3G comes in 2001 and after that in 2002 Mobile TV used commercially for the first time at South Korea. So, South Korea is the first country in the world that has Mobile TV. Then come Japan, United Kingdom, and Germany as pioneer country.

Sony watchman is the early example of 1982 which can be carried outside like today's handheld TV devices. In USA mobiTV brings first mobile TV service in 2003.

Bangladesh is very new country for Mobile TV service. Though Teletalk brings 3G service in Banhladesh but at first Grameen Phone provides Mobile TV service in Bangladesh from 2013.



Commercial add of Grameenphone Mobile TV service

#### 4.2.2 Mobile TV formats:

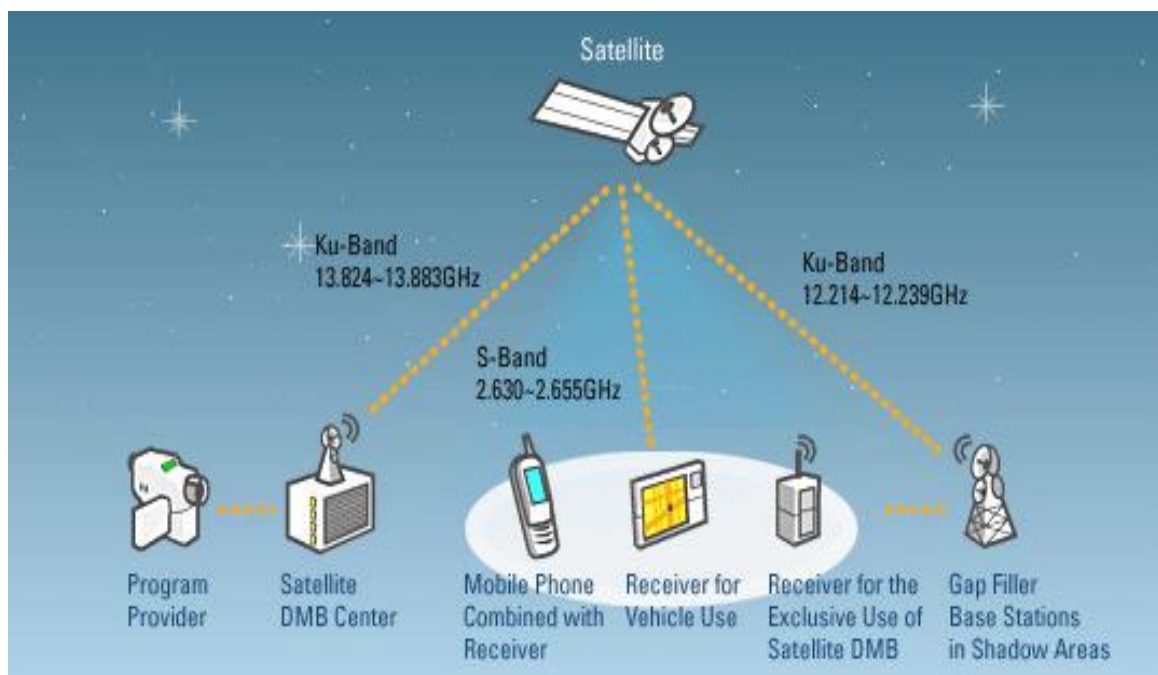
Till this time Mobile TV has three main formats:

1. China Multimedia Mobile Broadcasting (CMMB):

(CMMB) is a mobile television and multimedia standard which is developed and specified in China by the State Administration of Radio, Film, and Television. It is based on the satellite and terrestrial interactive multiservice infrastructure.

2. Digital Multimedia Broadcasting (DMB):

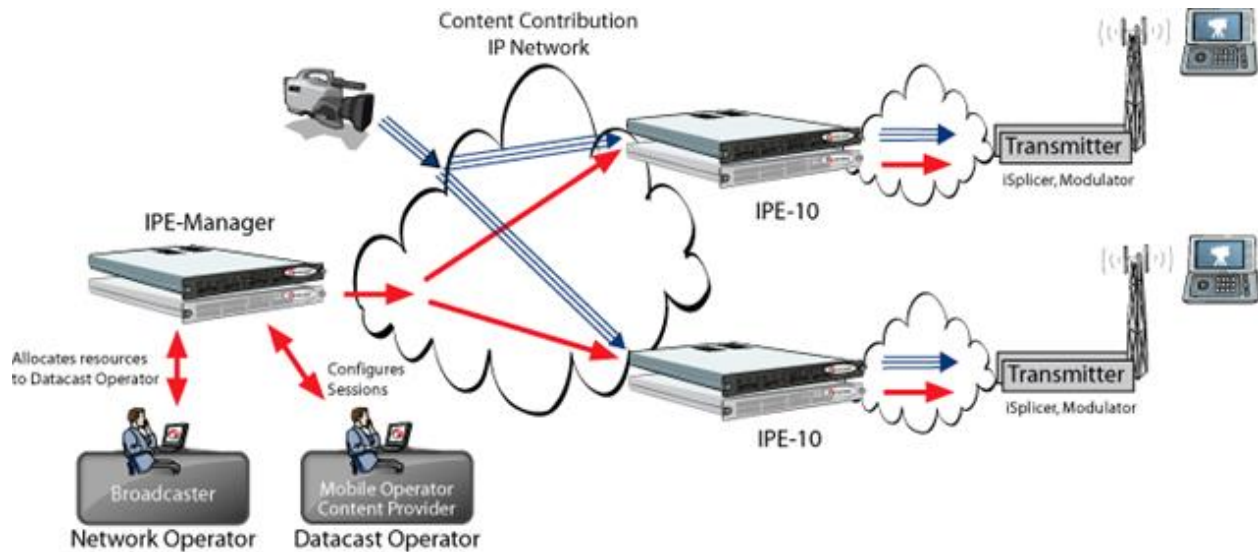
DMB was developed in South Korea, as the world's first official mobile TV service started in South Korea. It can operate via satellite (S-DMB) or terrestrial (T-DMB) transmission. DMB is based on the Eureka 147 Digital Audio Broadcasting (DAB) standard.



Clipart 1: Work way of Digital Multimedia Broadcasting (DMB)

3. DVB-H (Digital Video Broadcasting - Handheld):

DVB-H (Digital Video Broadcasting - Handheld) is one of three dominant mobile TV formats. DVB-H Delivers IP based services to mobile devices. It is commonly used by service providing companies.



Clipart 2: Work way of DVB-H (Digital Video Broadcasting - Handheld)

➤ Others:

There are some other formats like ATSC-M/H, 1seg (handheld). These are not prominently used in different countries.

#### 4.2.3 Advantages of Mobile TV:

- Handy:

Portability or handy is the main feature of development of mobile TV. With mobile TV people can watch live TV programs from anywhere. The main attraction events are sports, news. It is common that many people cannot watch sports or important news from their home TV when they are travelling or in office or electricity is off, they may be listen radio but radio programs do not give that atmosphere. For them mobile TV is vital.

- Full digital:

Mobile TV is digitally capable to catch digital broadcast without any antenna. Analog TV signals are caught by TV signals but mobile TV catch digital signals, so mobile TV show more channels than TV signals.

- High bride technology market:

3G is new in Bangladesh. Mobile TV service is also very new comer. Content provider market has good potentiality to increase their market. By increasing customer value they can gain good profit. From this way many people can be employed.

- Continuous technological improvement:

Since 1977 technologists are trying to improve mobile TV. First they need antenna and TV viewed in very small screen. But now there are many applications to play mobile TV based on android, ios etc. operating systems. In future there will come much more surprise in mobile TV.

#### **4.2.4 Specification for providing Mobile TV service:**

For providing Mobile TV mobile companies and service Supplier Company should fulfill some criteria.

- Power ingestion:

Mobile TV is a streaming service. It needs continuous power and network service for nonstop receipt, decoding, and display of video. Less power generating cannot support Mobile TV service.

- Remembrance:

Data streaming service is a continuous process. To make this continuous data supply mobile TV needs good memory. To run Mobile TV mobile memory should be high. It is a major requirement.

- Mobile display size:

In past people of Korea watch mobile TV in short screen mobile, but it was not that much enjoyable and good quality. Big mobile screen brings the real environment of TV.

- Mobile processor:

High processor power gives the good quality performance which is essential for watching mobile TV.

- Quality full content supplier:

To provider good mobile TV service the content provider company's role is very important. They have to have that much capacity to provide fluent service to customers because customers have to pay charge based on time, if they cannot watch show they have to pay for this also. If it happens they will not take this service in future.

#### 4.2.5 Mobile TV service providing company in Bangladesh:

Bangladeshi these mobile operators are providing mobile TV service:

- Grameen Phone
- Banglalink
- Airtel
- Robi
- Teletalk

#### 4.2.6 Channel frequency available in Mobile TV service:

In Bangladesh, some television channel frequencies are available in Mobile TV services.








Channel frequency name	Logo
BTV	
ETV	
Channel I	
ATN Bangla News	
Desh.TV	
RTV	
Shomoy	

Table 3: Channel available in Mobile TV

Other than these Bangladeshi channels viewers also can enjoy foreign channels like ESPN, CNN, BBC, TEN SPORTS etc.

### *4.3 Design of the Project:*

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Mobile TV service in Bangladesh is mainly based on IP system. From specific IP users can receive multimedia service including security, mobility and interactive function.

#### **4.3.1 How users find it:**

From Mobile TV service the operator provide live TV program on a particular channel. For this service users have to visit 3G section of the telecommunication operator and have to follow specific link. True Service provides the service to the users either operator link or direct domain “m.binodon24.com”.

#### **4.3.2 How user activate this service:**

To make it easy there are two option to activate this service. First, user can visit 3G section and pick their favorite package and subscribe it through SMS or WAP portal. Second, they can directly visit m.binodon24.com and click Mobile TV section for Mobile TV service.

Subscription is must to avail Mobile TV service.

#### **4.3.3 Subscription charge:**

Customers can choose any of their option to activate this service

<b>Pack</b>	<b>Daily Subscription</b>	<b>Weekly Subscription</b>	<b>Monthly Subscription</b>
Light	10 min @ 10 Taka	75 min @50 Taka	300 min @ 200 Taka
Medium	30 min @ 25 Taka	120 min @85 Taka	450 min @ 300 Taka
Heavy	60 min @ 40 Taka	240 min @160 Taka	600 min @ 400 Taka

Table 4: Mobile TV subscription tariff



➤ **Live Broadcasting:**

Some users activate the service for a particular live program like Live World Cup match. This service is under the area of Mobile TV, it also known as Live video broadcasting. Live video broadcasting is an event based service which will be live to the portal time to time based on that event.

The service charge of Live Broadcasting is different from Mobile TV subscription charge.

<b>Service Category</b>	<b>Subscription Plan</b>	<b>Tariff (BDT)</b>
Live Video Streaming	30 Min of Event	30
	1 hour of event	50
	Full event for the day	60

Table 5: Live broadcasting tariff

To avail any service under this system user must have 3G internet and smart devices. In Bangladesh Mobile TV is available in android and ios operating system. It cannot reachable in windows operating system yet.

#### 4.3.4 Diagram of the Mobile TV:

There are two phase of diagram, one, when the user get know about the link address and get subscribed and another subscriber user enter the service.

##### 4.3.4.1 Non-subscribed users' gate way:

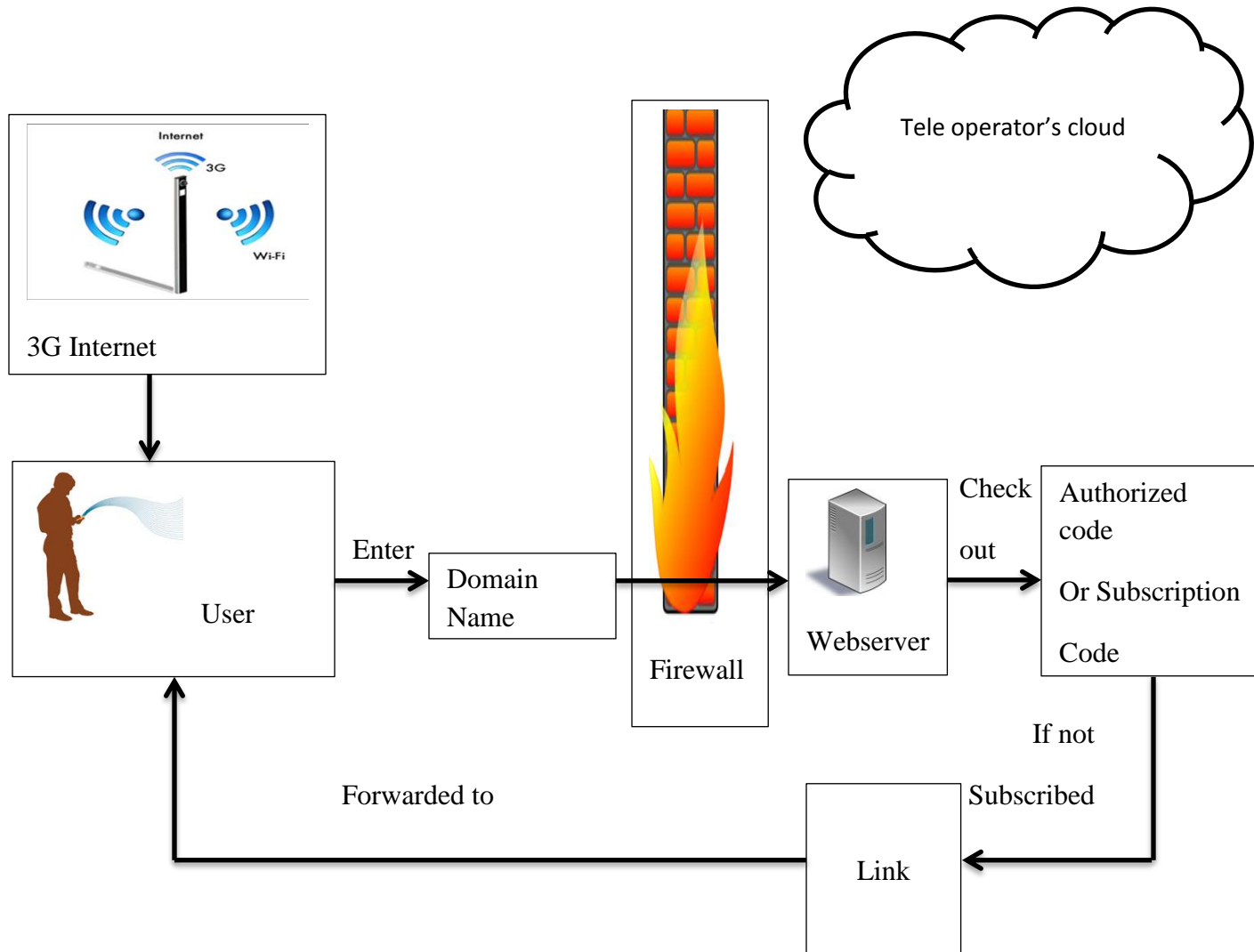


Diagram 1: Non- subscriber users' gateway

Here the non-subscribers' gate way process is completed in some phases, they are:

- ✓ Phase 1: Under the service of 3G internet user enter the domain name of the website through his smart device.
- ✓ Phase 2: When the domain name is received the user enters into the telecommunication operators cloud system. User cross the firewall and he get into the main server.
- ✓ Phase 3: User's code and subscription information is checked here.
- ✓ Phase 4: If the user is not subscribed user operator provide the link where user can be subscribed and forward to the user.

#### 4.3.4.2 Subscribed users' gateway:

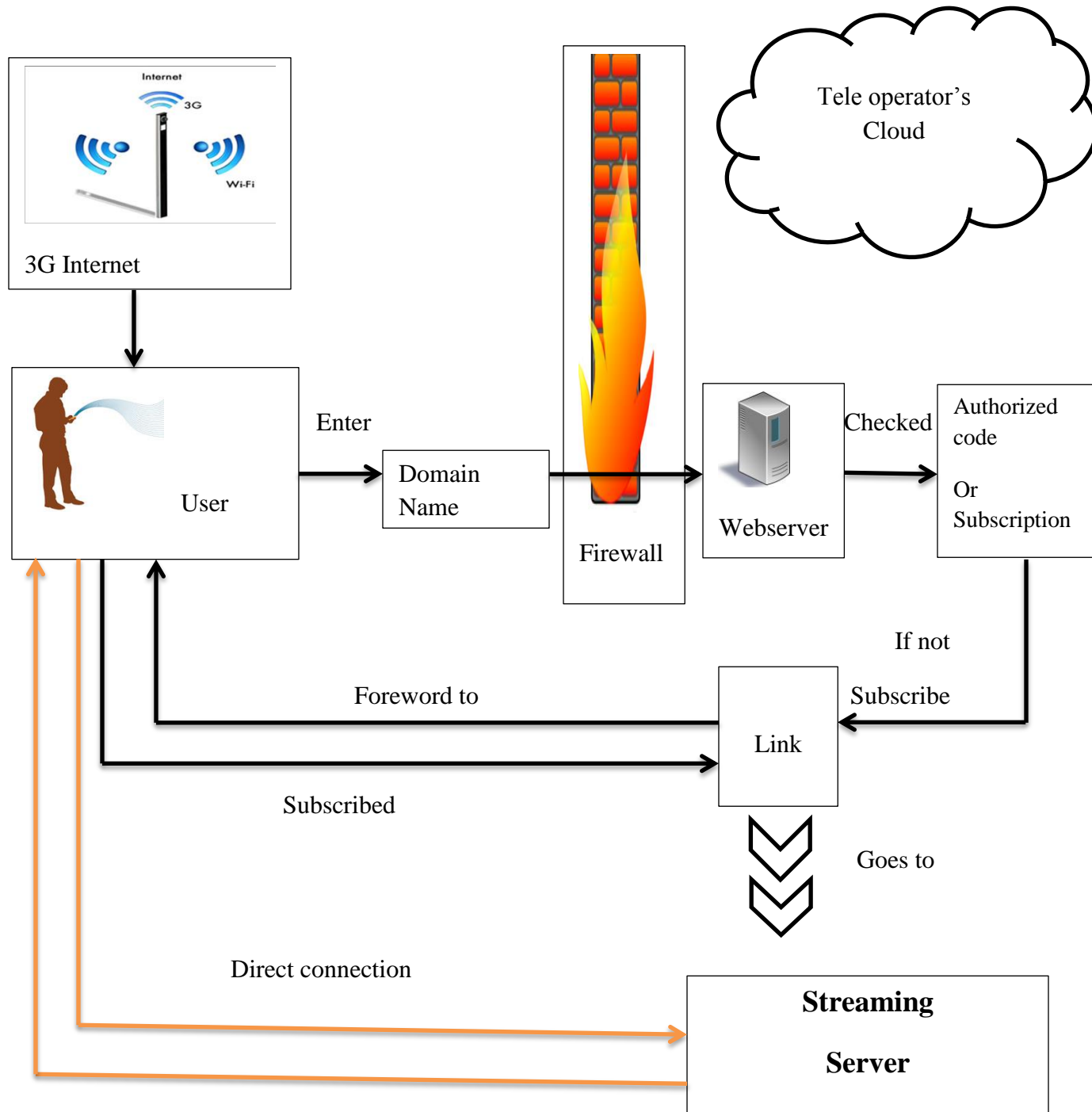


Diagram 2: Subscribed users' gateway

After the user get subscribed he/she does not need to go through by main server. User can directly connect with streaming room and can enjoy the service.

#### **4.3.5 Format used for this project:**

True Service (Pvt.) Limited used the mostly used technology for mobile TV service. They have used DVB-H standard for the delivery of audio and video content to mobile handheld devices. The feature that given by this this technology:

Feature	DVB-H
Video and audio formats	MPEG-4 or WM9 video AAC or WM audio
Transport stream	IP based
Modulation	QPSK
RF bandwidth	5-8 MHz
Power saving technology	Time slicing

Table 6: Feature of DVB-H

#### **4.3.6 Architecture of the service network:**

The particular Mobile TV service is successful for IP based multimedia architectures:

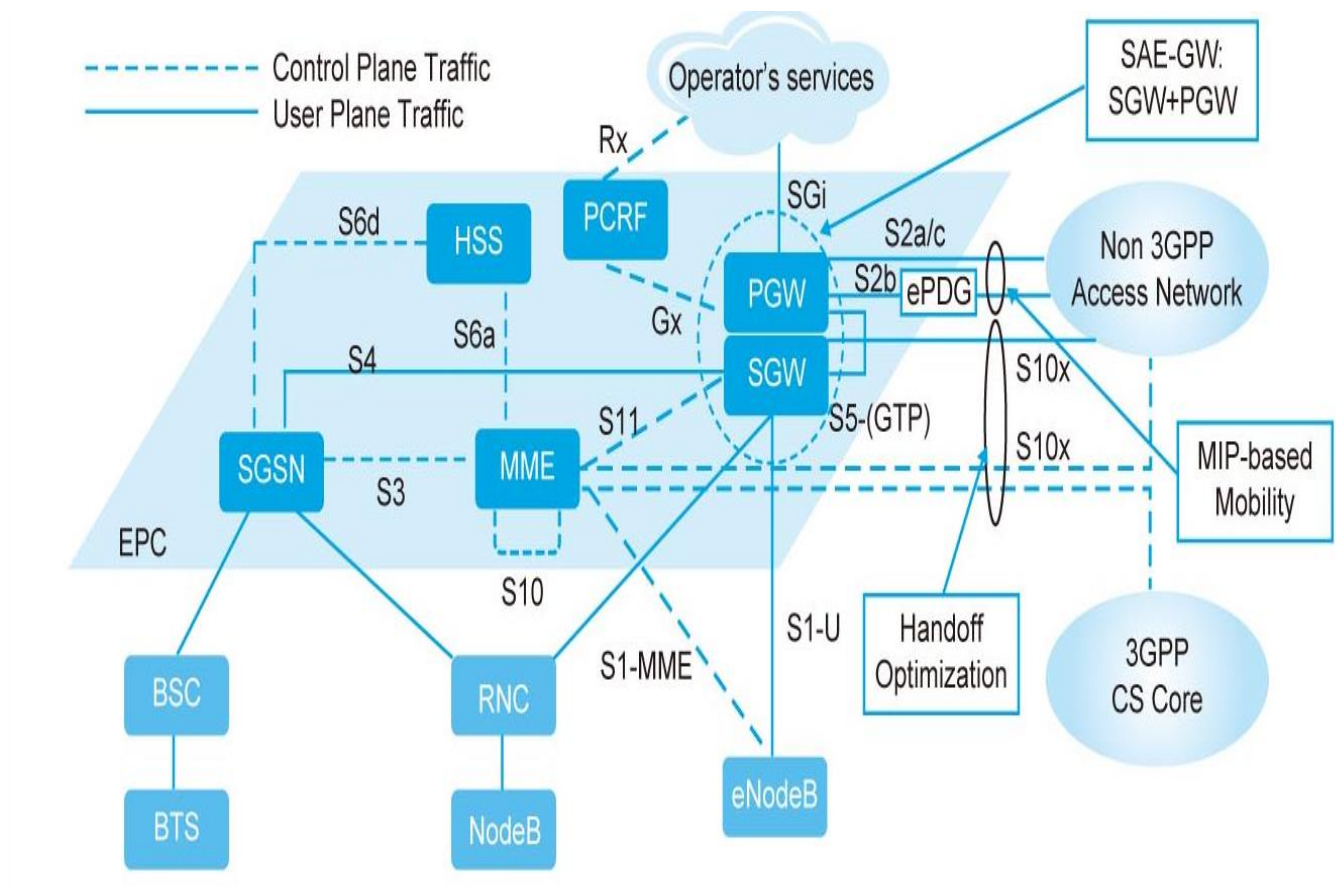
1. IP multimedia system (IMS) or 3GPP
2. Multi-media Domain 3GPP2

There architecture provide for the transmission of voice and video over IP with quality of service.

#### 4.3.6.1 IP multimedia system (IMS) or 3GPP:

True Services (Pvt.) Limited designed IMS such a way that can deliver Mobile TV service by internet protocol multimedia to 3G mobile users. IMS formed in 1999. 3GPP or 3rd Generation partnership project is a standardization project for 3G smart devices.

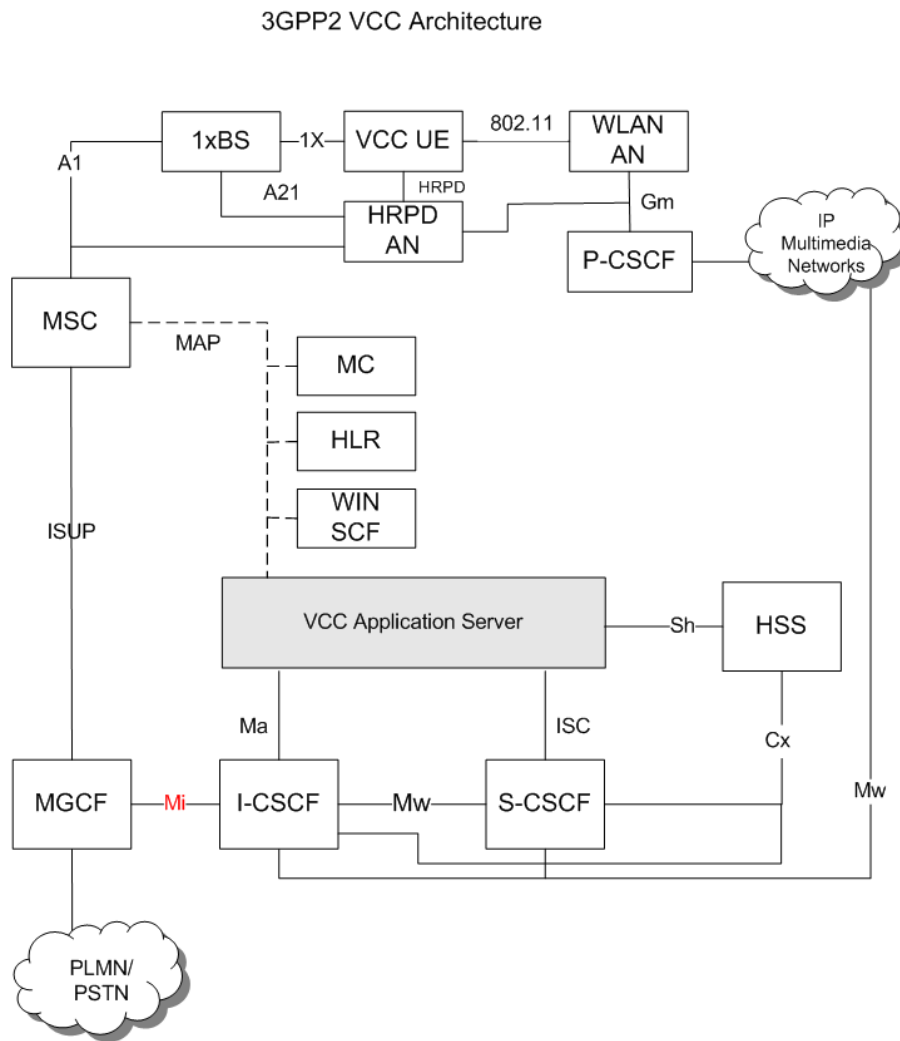
IMS architecture is a very complex thing. It supports old GPS and new GPRAS system also.



Clipart 3: IMS architecture

#### 4.3.6.2 Multi-media Domain or 3GPP2:

3GPP2 is not similar to 3GPP. 3GPP2 is based on mobile technology slandered CDMA2000. By 3GPP2 or Multimedia Domain support IMS based on standard CDMA2000. 3GPP2 mainly works for voice calling system. Voice call is little bit similar to Mobile TV service because voice calling and Mobile TV both need streaming live video service. True Service (Pvt.) Limited uses 3GPP2 for video streaming system. Here, 3GPP2 video calling architecture is given,



Clipart 4: Architecture of multi-media domain

#### *4.4 Findings:*

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Today in Bangladesh video streaming services and live video are widely available through 3G mobile TV service for mass range of people. People can get information about news headlines, sports news from anywhere and anytime. Mobile versions of popular programs are like Mobile ESPN, Mobile binodon, Mobile Somoy TV etc. designed specifically for mobile TV. Live video services over mobile network are provided by streaming the video and audio over the network in a manner very similar to streaming over internet. Streaming is a transferring method where video, audio, or live data need not to await for the full file download. Mobile TV service are facilitated by the use of common standards for the file formats and coding for audio and video as formalized under 3G network.

If anyone wants to launch this Mobile TV project he has to follow some requirements that need to be met by mobile networks and mobile devices.

Requirements for Mobile network:

➤ Protocols:

Mobile networks should be able to establish video calls, in which the video of the caller is associated with the call. For live streaming video delivered by a packet-switching service, there is needed to be a well-defined protocol which identifies the nature of call. The major requirement of protocol is answering and establishing video call or video streaming.

➤ Encoding:

The network must have standers for encoding of video and audio defined for different applications. Protocols help to reduce bandwidth requirements for encoded video and audio.

➤ Data transfer:

The network must have an adequate data rate available for uninterrupted transfer of video frames. The network must be that much efficient that can provide any significant transmission of streaming video and 3G networks are needed to provide satisfactory services.



Requirements for Mobile devices:

➤ 3G Mobile Internet:

The device must have 3G internet. To get the service user has to be online.

➤ Good video and audio quality:

There are many smart phone devices. All have good quality audio and video system it is not true. User has to grab good one that can support fluent data streaming.

#### **4.4.1 Recommendation:**

Entertainments on Mobile devices are becoming more preferable to Bangladeshi people because of 3G system. Users mainly receive three media contents; they are video, audio and text. To fulfill customers' satisfaction, maintaining quality of all these media is very important. If the contents carry low resolutions the service will be failed. It is not the same thing what we see in box TV. For mobile TV customer pay for every second, so they should get excellent quality content.

The format and system should be designed such a way that make sure the minimum use of bandwidth. Mobile TV is continuous data streaming process. If it burn high bandwidth, customers have to use excessive bandwidth. Operators and content providers have to use efficient protocols to minimize the use of bandwidth for this live streaming video service.

Mobile TV provides multimedia contents to the users by wireless communication. If it contains with personalized recommendation system, it may allow the users to easily select the contents that they want to access. From this system the present users may can score the available contents and review it. Furthermore, the user may able to express the preference in a fine-grained way instead of choosing from direct list of categories. In this way the contents may be classified as fun, action, thrill and erotic. From the customers' choice of view they can select according to their emotion and mood. Business in a personalized way always gives preference to customers' value and choice that enrich the business wealth.

## Chapter- 5

### *5.1 Conclusion:*

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Mobile TV is the whole package of text, audio and video media formats and delivering this service as user's perspective. True Services (Pvt.) Limited on the participants who is delivering this service. Mobile TV is such a services that no single format and single delivery method can fulfill. The full complex system is tactfully handled by True Services Limited. Mobile TV is used spontaneously for those users who have very niche choice of content for a very short moment of viewing.

Sometime it is founded that Mobile TV service has low commitment of quality. The content is not delivered properly and live broadcasting is hampering. Beside all this, to improve this new service for Bangladesh, True Service's specialists are doing their best.

Customer satisfaction is the most major part for any service. For live broadcasting customer do not like loops, they want to watch the event without any disturbance. To insure customer satisfaction, true is working on reducing the program loops.

Many customers' says that if the broadcasting charge can be collected by operator's bill rather than taking fixed package. However, the operator designed their service as fixed package, so as content supplier True Services Limited providing their service according to operator's choice.

Now TV is part of our daily life like toothpaste. But many people miss their favorite shows; news though may be they have big beautiful TV. Always radio cannot give live broadcasting and some areas are not covered by radio frequency but TV goes everywhere. Though even now the service is going under repair and upgrading process, Mobile TV is a great service of third generation mobile technology which brings the whole world in our hand. True Service (Pvt.) Limited is a part of this great service and very thankful to be a part.

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